



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,966	02/21/2000	Rohit V Gaikward	1789-01910	1682
23505	7590	09/02/2004	EXAMINER	
CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267			TIEU, BINH KIEN	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 09/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/510,966	Applicant(s) GAIKWARD ET AL.	
	Examiner BINH K. TIEU	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-21 is rejected under 35 U.S.C. 102(e) as being anticipated by Schneider (U.S. Pat. #: 6,246,716).

Regarding claim 1, Schneider teaches a communication system, as shown in figures 1 and 3, that comprises:

- a subscriber modem (i.e., transceiver at site "A");
- a central office modem (i.e., transceiver at site "B"); and
- a communication channel coupled between the subscriber modem and the central office modem (i.e., xDSL bi-directional communications medium 300 or 600 having upstream and downstream) and configured to transport uplink signals from the subscriber modem to the

Art Unit: 2643

central office modem, and further configured to transport downlink signals from the central office modem to the subscriber modem (col.5, line 44 – col.6, line 17),

wherein the power spectral density of the transmitted uplink signals is proportional to the power spectral density of the transmitted downlink signals (col.8, lines 39-46); and

wherein the power spectral density of the transmitted uplink signals is substantially unequal to the power spectral density of the transmitted downlink signals (also see table 3, 5 and 6, col.11, line 30 - col.12, line45).

Regarding claim 2, Schneider teaches a communication system, as shown in figures 1 and 3, that comprises:

a subscriber modem (i.e., transceiver at site “A”);

a central office modem (i.e., transceiver at site “B”); and

a communication channel coupled between the subscriber modem and the central office modem (i.e., xDSL bi-directional communications medium 300 or 600 having upstream and downstream) and configured to transport uplink signals from the subscriber modem to the central office modem, and further configured to transport downlink signals from the central office modem to the subscriber modem (col.5, line 44 – col.6, line 17),

wherein at frequencies below a selected frequency $M_{sub.E2F}$ (i.e., corner frequency), the power spectral density of the transmitted uplink signals is proportional to the power spectral density of the transmitted downlink signals by a positive scale factor (col.10, line 54 – col.11, line 10), and

wherein at frequencies above $M_{sub.E2F}$, the power spectral density of the uplink signals are limited to one or more uplink frequency bands and the downlink signals are limited

to one or more downlink frequency bands that are disjoint from the uplink frequency bands, and wherein the total bandwidth of the uplink frequency bands is proportional to the total bandwidth of the downlink frequency bands by the same positive scale factor (col.8, line 57 – col.10, line 35).

Regarding claim 3, Schneider teaches a communication system, as shown in figures 1 and 3, that comprises:

- a subscriber modem (i.e., transceiver at site “A”);
- a central office modem (i.e., transceiver at site “B”); and
- a communication channel coupled between the subscriber modem and the central office modem (i.e., xDSL bi-directional communications medium 300 or 600 having upstream and downstream) and configured to transport uplink signals from the subscriber modem to the central office modem, and further configured to transport downlink signals from the central office modem to the subscriber modem (col.5, line 44 – col.6, line 17),

Wherein when the connection is initiated, frequency bands are allocated to the uplink and downlink power signals so that the total uplink and downlink capacity is maximized over the channel for predetermined uplink and downlink average signal power (col.8, line 57 – col.10, line 35);

wherein the predetermined uplink and downlink average powers are unequal (col.5, lines 44-57).

Regarding claims 4 and 13, Schneider teaches a modem and a method for communicating over a communications channel with another modem, wherein the modem is configured to:

receiving an uplink signal having a transmitted uplink power spectral density ("PSD");
and

transmitting a downlink signal with a transmitted downlink PSD that is proportional to the transmitted uplink PSD (col.5, lines 44-58; col.9, lines 7-25 and col.12, lines 15-45).

Regarding claims 5 and 14, note col.6, line 57 – col.7, line 13.

Regarding claims 6 and 15, the claims are rejected with same reasons set for in the rejection of claim 2 above.

Regarding claims 7 and 16, note col.6, line 57 – col.7, line 13.

Regarding claims 8 and 17, note col.10, line 46 – col.12, line 21.

Regarding claims 9 and 18, Schneider teaches a modem and a method for communicating over a communications channel between at least two modems, the modem and the method comprising features of:

jointly optimizing a transmitted uplink PSD and a transmitted downlink PSD to maximize a sum of uplink and downlink capacities subject to a predetermined average uplink power and a predetermined average downlink power, wherein the predetermined average uplink and downlink power are unequal (col.6, line 57 – col.7, line 26);

receiving an uplink signal having the optimized transmitted uplink power spectral density ("PSD"); and

transmitting a downlink signal with a transmitted downlink PSD (col.5, lines 44-57 and col.9, lines 8-25).

Regarding claims 10 and 19, note col.10, line 46 – col.12, line 21.

Regarding claims 11-12 and 20-21, note col.8, line 31 – col.11, line 10.

Conclusion

4. Although the Pays (US. Pat. #: 4,450,555 is not applied into this Office Action, it is also called to Applicants attention. It may be used in future Office Action(s). The reference is also concerned with adjustments of power spectral density of uplink and downlink signals.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (703) 305-3963 and E-mail address: BINH.TIEU@USPTO.GOV.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

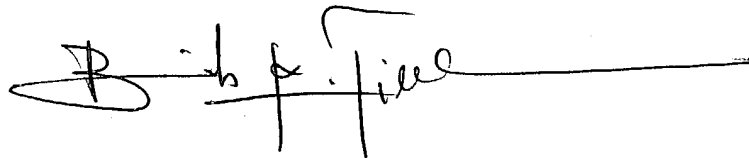
Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

A handwritten signature in black ink, appearing to read 'Binh K. Tieu', with a long horizontal line extending to the right.

**BINH TIEU
PRIMARY EXAMINER**

Art Unit 2643

Date: August 30, 2004